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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,421

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Gee-Sung Chae

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03/26/2010

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EXAMINER

BODDIE, WILLIAM

ART UNIT

PAPER NUMBER

2629

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/674,421	<b>Applicant(s)</b> CHAE ET AL.	
	<b>Examiner</b> WILLIAM L. BODDIE	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 4 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In an amendment dated, February 19<sup>th</sup>, 2010 the Applicant amended claim 1. Currently claims 1 and 4 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. (US 6,069,678) in view of Kim (US 2002/0063835) and further in view of Shin et al. (US 6,356,328).

**With respect to claim 1**, Sakamoto discloses, an in-plane switching mode liquid crystal display device, comprising:

a plurality of gate lines (105 in fig. 24) and data lines (205 in fig. 24) defining a plurality of pixels;

a thin film transistor (505 in fig. 24) in each of the pixels, the thin film transistor including a gate electrode (1405 in fig. 25) on a substrate (605 in fig. 25), an insulating layer (2405 in fig. 25) over the gate electrode, a semiconductor layer (1105, 2505 in fig.

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25) on the insulating layer, a source electrode (1005 in fig. 25) and a drain electrode (905 in fig. 25) on the semiconductor layer;

a common line (part of 305 in fig. 24 that runs horizontally);

at least one pixel electrode (405 in fig. 24) having a predetermined width (clear from fig. 6) in each of the pixels; and

a common electrode (305 in fig. 24) in each of the pixels, the common electrode being substantially parallel to the pixel electrode (fig. 24), the common electrode including two first portions (left and right wide portions of 305 in fig. 24) disposed along the data line to cover complete the data line ( $W_{com} > W_d$  in fig. 24) and only one second portion (skinny portion of 305 in middle of the pixel in fig. 24) disposed between the first portions (fig. 24), thereby each of the pixels including two areas defined by the first portion and the second portion (fig. 24 shows two different areas as here defined);

a passivation layer (2605 in fig. 25) over the source electrode, drain electrode and semiconductor layer, and

wherein the common electrode is disposed on the passivation layer (col. 10, lines 45-46; also note fig. 26).

Sakamoto does not expressly disclose, that the common electrode is connected to the common line, on the substrate, through a contact hole, nor that the common and pixel electrodes are disposed on the same layer.

Kim discloses, a passivation layer (174 in fig. 11) being made of an organic material including at least one material of BCB and photoacryl (para. 89); and

wherein a pixel electrode (400 in fig. 13) and a common electrode (320 in fig. 13) are disposed on the same layer (fig. 9), a common electrode (320 in fig. 13) and a common line (300 in fig. 13) on a substrate (110 in fig. 11) are disposed on layers different from each other (315 and 300 in figs. 11 and 13) so that the common electrode is connected to the common line through a contact hole (310 in figs. 13 and 11) formed in the insulating layer and the passivation layer (174 and 170 in fig. 11), The pixel electrode and the common electrode being disposed on the passivation layer (174 in fig. 9),

wherein the common electrode (320 in fig. 8) is not overlapped with the pixel electrode (400 in fig. 8).

Kim and Sakamoto are analogous art because they are both drawn to structural components of LCD pixels.

At the time of the invention it would have been obvious to dispose the pixel and common electrodes on the same layer and to connect the common line and electrodes of Sakamoto via a contact hole as taught by Kim.

The motivation for doing so would have been to improve aperture ratio and brightness (Kim; para. 73).

Neither Kim nor Sakamoto expressly disclose, the common line is separated a predetermined distance from the end portion of the pixel electrode.

Shin discloses, wherein the common electrode and the common line are not overlapped (clear from fig. 3) with a pixel electrode (16b in fig. 3) and the common line

is separated a predetermined distance from the end portion of the pixel electrode (clear from fig. 3).

Shin and Sakamoto are analogous art because they are both drawn to structural components of LCD pixels.

At the time of the invention it would have been obvious to arrange the common and pixel electrodes and lines of Sakamoto and Kim as taught by Shin.

The motivation for doing so would have been to improve aperture ratio and brightness (Shin; col. 2, lines 16-22).

**With respect to claim 4**, Sakamoto, Shin and Kim disclose, the device of claim 1 (see above).

Sakamoto further discloses, wherein the data lines (905 in fig. 25/ 205 in fig. 24) are formed on the insulating layer (2405 in fig. 25).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM L. BODDIE whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629

/William L Boddie/

Examiner, Art Unit 2629

3/26/10